



EUROPEAN  
COMMISSION

Community Research

# BIO-ENERGY

## Enlarged Perspectives

Budapest, 16-17 October 2003



Conference Programme



SIXTH FRAMEWORK PROGRAMME

# AIMS OF THE WORKSHOP

## **Contractors meeting and Brokerage event**

The aim of this workshop is to review current projects in the Bio-energy field and provide a better basis for planning of future activities. The focus is on integration and increasing of the active role of partners from future Member States in Bio-energy research in the Sixth Framework Programme, FP6.

The workshop offers a comprehensive view with in-depth thematic presentations of the achievements of the ongoing projects co-financed by the Directorate General for Research. It also provides appropriate means for displaying research projects and activities currently under way in the future Member States as well as an open forum for discussion.

The event is of interest to researchers from universities, institutes and industry as well as policy makers, regulators, and other stakeholders. Furthermore, the conference is of special value to those who wish to participate in coming calls of FP6.



# FOREWORD

## ***Enlarged perspectives for bio-energy: the green light for a sustainable future***

Renewable energy sources will play an increasingly important role in building a sustainable future for the enlarging European Union. In the longer term, biomass has a very significant potential to contribute to the EU primary energy demand, perhaps up to 20%. In order to reach such a target, there is a need to identify the main areas where further research and development can lower costs and improve efficiencies throughout the complete chain of production and use.

The EU contributes to the costs of such research and development through the RTD Framework Programmes. The Sixth Framework Programme, which is currently being implemented, differs significantly from previous ones. The key difference is its role in contributing to the creation of the European Research Area (ERA) in sustainable energy systems. This means that the aim is to assemble a *critical mass of resources*, to *integrate* research efforts by pulling them together and to make this research more *coherent* on the European scale.

The objective of the Budapest workshop "**Bio-energy: enlarged perspectives**" is to present the ongoing co-operation efforts and discuss how to enhance it in order to achieve the ERA for bio-energy in an enlarged European Union of 25 member states. The workshop provides an opportunity to appraise the many types of research activities carried out in member states and candidate countries, and allows scientists to establish valuable contacts and explore opportunities in the Sixth Framework Programme.



**Pablo FERNANDEZ RUIZ**  
*Director for Energy Research*



# Wednesday, 15 October 2003

16.30 – 19.00

**Registration**

18.00 – 19.00

Welcome cocktail

# Thursday, 16 October 2003

08.30

**Registration**

09.30 - 10.30

**Opening session**

Welcome addresses

**Pablo Fernandez Ruiz**, European Commission, DG Research

**István Csillag**, Minister of Economy and Transport, Hungary  
(to be confirmed)

**Grzegorz Wisniewki**, Bio-energy in Candidate Countries, Baltic  
Renewable Energy Center, Poland

10.30

Coffee break

## **PLENARY SESSION: BIO-ENERGY- ENLARGED PERSPECTIVES**

**Session Facilitator:** Wiktor Raldow, DG Research

11.00 - 11.10

Introduction by the chairperson

**Peter Lund**, Helsinki University of Technology, Finland

11.10 - 11.30

Bio-energy options in Europe

**Josef Spitzer**, Joanneum Research, Austria

11.30 - 11.50

Market development, present and future trends

**Kees Kwant**, NOVEM, The Netherlands

11.50 - 12.10

Overcoming barriers for Bio-energy

**Béla Marosvoelgyi**, University of West Hungary, Hungary

12.10 - 12.30

Bio-energy research programmes

**Björn Telenius**, STEM, Sweden

12.30

**Opening of the poster exposition**

13.00 - 14.30

Visits to the poster area and working lunch

14.30 - 17.00	Presentation of results of EU projects <b>Session A</b> Biochemical conversion systems <b>Session B</b> European Research Area – FP6 projects <b>Session C</b> Thermochemical conversion systems: Combustion and cofiring <b>Session D</b> Thermochemical conversion systems: Gasification and pyrolysis
17.00 - 18.00	Visits to the poster area
20.00	Dinner

## Friday, 17 October 2003

09.00 - 10.00	Visits to the poster area
10.00 - 12.30	Presentation of results of EU projects <b>Session E</b> Combined heat and power <b>Session F</b> Biomass resources and potential: Feedstock <b>Session G</b> Thermochemical conversion systems: Cofiring <b>Session H</b> Thermochemical conversion systems: Gasification: Gas cleaning and Hydrogen production
12.30 - 14:00	Visits to the poster area and working lunch

### PLENARY SESSION: BIO-ENERGY-ENLARGED PERSPECTIVES

	<b>Session Facilitator:</b> Jeroen Schuppers, DG Research
14.00 - 14.10	Introduction by the chairperson <b>Melvyn F. Askew</b> , Central Science Laboratory, United Kingdom
14.10 - 14.30	Biomass and environment <b>Miroslav Safarik</b> , Czech Environmental Institute, Czech Republic
14.30 – 15.30	Main messages from the technical sessions <b>Sessions Chairpersons</b>
15.30 – 15.45	Research in Bio-energy in the 6th FP – future calls <b>Wiktor Raldow</b> , DG Research
15.45 – 16.00	Closing address <b>Wiktor Raldow</b> , DG Research

### Topics Addressed

- × Biomass resources and potential: Feedstock (Session F)
- × Biochemical conversion systems: Biofuels for transport, biogas (Session A)
- × Thermochemical conversion technology systems (Sessions C, D, E, G, H)
- × European Research Area – IPs and NoE in the first call (Session B)

Thursday, 16 October 2003

### Parallel session A Biochemical conversion systems

**Chairman:** Tetyana Zhelyezna, Scientific Engineering Centre “Biomass”, Ukraine

**Rapporteur:** Yves Schenkel, CRA, Belgium

**Session Facilitator:** Jeroen Schuppers, EC Scientific Officer

1. Integrated biomass utilisation for production of biofuels, CO-PRODUCTION BIOFUELS, Coordinated by **Charles Nielsen, ELSAM A/S, Denmark**
2. Technological improvement for ethanol production from lignocellulose, TIME, Coordinated by **Liisa Viikari, VTT, Finland**
3. Development of a biotechnological high yield process for ethanol production, based on a continuous fermentation reactor, FERMATEC, Coordinated by **Antonio Ferreira, TECNIA, Portugal**
4. Large bioethanol/ETBE integrated project in China and Italy, ECHI-T, Coordinated by **David Chiaramonti, ETA, Italy**
5. Maximum energy yield from organic wastes and decontamination to a high quality organic fertilizer by a microbiological hybrid process, ENERDEC, Coordinated by **Martin Wellacher, Komptech-Farwick Heissenberger & Pretzler GmbH, Austria**
6. Biochemicals and energy from sustainable utilisation of herbaceous biomass, BESUB, Coordinated by **Asgeir Leifsson, The Icelandic Biomass Company Ltd, Iceland**
7. Three step fermentation of solid state biowaste for biogas production and sanitation, 3A-BIOGAS, Coordinated by **Horst jun. Müller, Müller Abfallprojekte GmbH, Austria**
8. Development of an improved energy recovery of biogas by cooling and removal of harmful substances, EROB, Coordinated by **Stephan Waerdt, PRO2 Anlagentechnik GmbH, Germany**
9. Advanced prediction, monitoring and controlling of anaerobic digestion processes behaviour towards biogas usage in fuel cells, AMONCO, Coordinated by **Marianne Haberbauer, Profactor Produktionsforschungs GmbH, Austria**
10. Holistic Integration of MCFC technology towards a most effective systems compound using biogas as a renewable source of energy, EFFECTIVE, Coordinated by **Steven Trogisch, PROFACOR, Austria**



## Parallel session B European Research Area – IP and NoE in the first call

**Chairman:** Martin Kaltschmitt, Institute of Energy & Environment GmbH, Germany

**Rapporteur:** Ladislav Zidek, Biomass Association, Slovak Republic

**Session Facilitator:** Komninos Diamantaras, EC Scientific Officer

1. ERA bio-energy strategy – short term measures to develop the European Research Area for bio-energy RTD, ERA BIOENERGY, Coordinated by **Josef Spitzer, Joanneum Research Forschungsgesellschaft GmbH, Austria**
2. Overcoming barriers to bio-energy, NOE-BIOENERGY, Coordinated by **Kai Sipilä, VTT, Finland**
3. Renewable fuels for advanced powertrains, RENEW, Coordinated by **Frank Seyfried, Volkswagen AG, Germany**
4. Clean hydrogen-rich synthesis gas, CHRISGAS, Coordinated by **Thomas Thörnqvist, Växjö University, Sweden**

## Parallel session C Thermochemical conversion systems: Combustion and cofiring

**Chairman:** Emmanuel Koukios, National Technical University of Athens, Greece

**Rapporteur:** John Tucker, Casella Group, United Kingdom

**Session Facilitator:** Erich Naegele, EC Scientific Officer

1. Clean energy recovery from biomass waste & residues, BIOWARE, Coordinated by **Lourdes Armesto Lopez, CIEMAT, Spain**
2. Optimisation and design of biomass systems, OPTICOMB, Coordinated by **Lambertus Van Kessel, TNO, The Netherlands**
3. Biomass/waste FBC with inorganics control, BIFIC, Coordinated by **Birgitta Strömberg, TPS, Sweden**
4. Aerosols in fixed-bed biomass combustion-formation, growth, chemical composition, deposition, precipitation and separation from flue gas, BIO-AEROSOLS, Coordinated by **Ingwald Obernberger, Technical University of Graz, Austria**
5. The influence of tar composition and concentration on fouling, emission and efficiency of micro and small scale gas turbines by combustion of biomass derived low calorific valued gas, TARGET, Coordinated by **Hartmut Spliethoff, Technical University Delft, The Netherlands**
6. Safe co-combustion and extended use of biomass in CHP FB plants with accepted emissions, FBCBIOW, Coordinated by **Martti Aho, VTT Energy, Finland**



## Parallel session D Thermochemical conversion systems: Gasification and pyrolysis

**Chairman:** Pietro Foscolo, University of Aquila, Italy

**Rapporteur:** Pekka Simell, VTT, Finland

**Session Facilitator:** Maria Fernandez Gutierrez, EC Scientific Officer

1. Catalyst development for catalytic biomass flash pyrolysis producing promising liquid bio-fuels, BIOCAT, Coordinated by **Angelos Lappas, CPERI, Greece**
2. Efficient and clean production of electricity from biomass via pyrolysis oil and hydrogen, utilizing fuel cells, BIO-ELECTRICITY, Coordinated by **Wolter Prins, University of Twente, The Netherlands**
3. A new competitive liquid biofuel for heating, COMBIO, Coordinated by **Yrjö Solantausta, VTT, Finland**
4. Improvement of the economics of biomass/waste gasification by higher carbon conversion and advanced ash management, GASASH, Coordinated by **Matti Nieminen, VTT Energy, Finland**
5. Biomass gasification for CHP with dry gas cleaning and regenerative heat recovery, DRYGASCLEANING, Coordinated by **Philippe Girard, CIRAD, France**
6. Development of a standard method (Protocol) for the measurement of organic contaminants “tars” in biomass producer gases, TAR PROTOCOL, Coordinated by **Jacob H.A. Kiel, Netherlands Energy Research Foundation, The Netherlands**
7. Standardisation of a guideline for the measurement of tars in biomass producer gases, TAR MEASUREMENT, Coordinated by **Beatriz Coda, ECN, The Netherlands**



## Parallel session E Combined heat and power

**Chairman:** David Baxter, JRC, The Netherlands

**Rapporteur:** Helle Junker, Elsam Engineering, Denmark

**Session Facilitator:** Jeroen Schuppers, EC Scientific Officer

1. Biofuels for CHP plants - Reduced emissions and cost reduction in the combustion of high alkali biofuels, HIAL, Coordinated by **Klaus Hilpert, FZJ, Germany**
2. Straw gasification for co-combustion in large CHP plants, STRAWGAS, Coordinated by **Hakon Mosbech, ELKRAFT, Denmark**
3. Biomass cogeneration network, BIOCOGEN, Coordinated by **Calliope Panoutsou, CRES, Greece**
4. Biomass heatpipe reformer, BIOHPR, Coordinated by **Jürgen Karl, Technische Universität München, Germany**
5. Unification of power plant and solid waste incineration, UPSWING, Coordinated by **Klaus R.G. Hein, Universität Stuttgart, Germany**
6. Intelligent process control system for biomass fuelled industrial power plants, INTCON, Coordinated by **Niklas Berge, TPS, Sweden**

## Parallel session F Biomass resources and potential: Feedstock

**Chairman:** Kati Reczey, Budapest University of Technology & Economics, Hungary

**Rapporteur:** Nike Krajnc, Slovenia Forestry Institute, Slovenia

**Session Facilitator:** Komninos Diamantaras, EC Scientific Officer

1. Energy forest development on areas in central-eastern Europe, where the agricultural producing is uneconomical - an assessment study, ENERGY FOREST, Coordinated by **Janos Horvath, Geo-Montan Co., Hungary**
2. Biofuel production potential of EU-Candidate Countries, ESTO, Coordinated by **Boyan Kavalov, IPTS, Spain**
3. Integrated energy and fibre production by a sulphur-free and carbon dioxide neutral process, EFPPO, Coordinated by **Kari Ebeling, UPM-KYMMENE Corp., Finland**
4. Accompanying measure on critical technology selection and conference for renewable energy recovery from biomass generated within the European Leather Sector, MOND, Coordinated by **Victoria Addy, BLC, United Kingdom**
5. Development of an innovative acidic shape-selective mineral catalyst added pelletised fuel from organic wastes, ASMICAF, Coordinated by **Elmar Klaus Wolff, Teccon-Innovation GmbH, Germany**
6. Energy wood production chains in Europe, ECHAINE, Coordinated by **Matti Parikka, Sveriges Lantbruksuniversitet, Sweden**
7. Bioenergy chains from perennial crops in South Europe., BIOENERGY CHAINS, Coordinated by **Christou Myrsini, CRES, Greece**
8. Pre-normative work on sampling and testing of solid biofuels for the development of quality management, BIONORM, Coordinated by **Martin Kaltschmitt, Institut für Energetik und Umwelt GmbH, Germany**

## Parallel session G Thermochemical conversion systems: Cofiring

**Chairman:** Ruta Bendera, Waste Management Association of Latvia, Latvia

**Rapporteur:** Joaquin Ancin, EHN, Spain

**Session Facilitator:** Erich Naegele, EC Scientific Officer

1. Advanced biomass reburning in coal combustion systems, ABRICOS, Coordinated by **Guy Bencteux, EDF-DRD, France**
2. Application of liquid biofuels in new heating technologies for domestic appliances based on cool flame vapourisation and porous medium combustion, BIOFLAM, Coordinated by **Thomas Brehmer, OMV Aktiengesellschaft, Austria**
3. Quality of secondary fuel for pulverised fuel co-combustion, SEFCO, Coordinated by **Wolfgang Scheurer, Technical University Delft, The Netherlands**
4. Mitigation of formation of chlorine rich deposits affecting on superheater corrosion under co-combustion conditions, CORBI, Coordinated by **Markku Orjala, VTT, Finland**
5. Influences from biofuel co-combustion on catalytic converters in coal fired power plants, CATDEACT, Coordinated by **Klaus R.G. Hein, University of Stuttgart, Germany**
6. Reduction of toxic metal emissions from industrial combustion plants-impact of emission control technologies, TOMERED, Coordinated by **Klaus R.G. Hein, University of Stuttgart, Germany**



## Parallel session H Thermochemical conversion systems: Gasification: Gas cleaning and Hydrogen production

**Chairman:** Jan Zeevalkink, TNO, The Netherlands

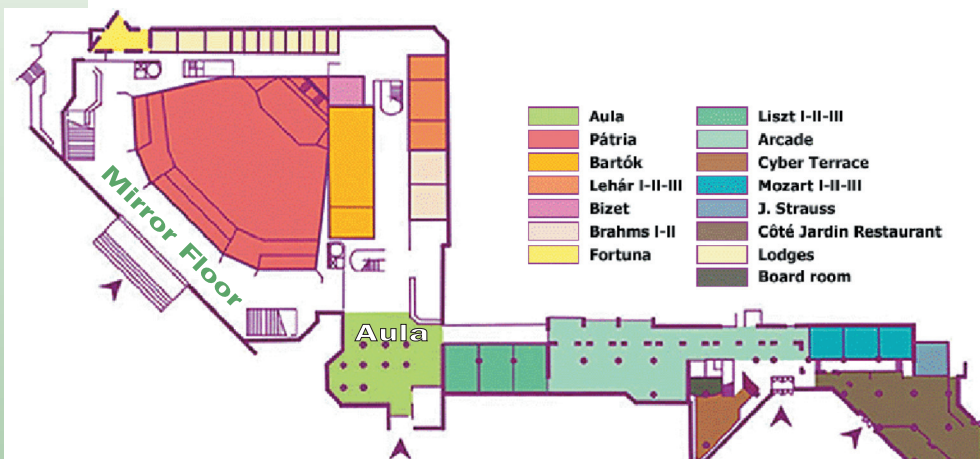
**Rapporteur:** Philippe Girard, CIRAD, France

**Session Facilitator:** Maria Fernandez Gutierrez, EC Scientific Officer

1. Degradation of tarwater from biomass gasification, DE-TAR, Coordinated by **Björn Teislev, Babcock & Wilcox Volund, Denmark**
2. Development of selective catalytic oxidation “SCO” technology and other high temperature NH<sub>3</sub> removal processes for gasification power plant, AMMONIA REMOVAL, Coordinated by **Pekka Simell, VTT Energy, Finland**
3. Tar decomposition by novel catalytic hot gas cleaning methods, NOVACAT, Coordinated by **Pekka Simell, VTT Energy, Finland**
4. Biomass and waste conversion in supercritical water for the production of renewable hydrogen, SUPERHYDROGEN, Coordinated by **Bert van de Beld, BTG, The Netherlands**
5. Hydrogen fuel gas from supercritical water gasification of wine grape residues and wet rest-biomass, WINEGAS, Coordinated by **Manfred Bauer, Bauer Kompost GmbH, Germany**
6. A new approach for the production of a hydrogen-rich gas from biomass – an absorption enhanced reforming process, AER-GAS, Coordinated by **Michael Specht, Center for solar energy and hydrogen research, Germany**
7. Biomass gasification and fuel cell coupling via high temperature gas clean-up for decentralised electricity generation with improved efficiency, CLEAN ENERGY FROM BIOMASS, Coordinated by **Antonio Germana, Universita degli studi di l’Aquila, Italy**



# GROUND-PLAN OF BUDAPEST CONGRESS CENTRE



[http://www.bcc.hu/al2\\_eng02\\_groundcap.htm](http://www.bcc.hu/al2_eng02_groundcap.htm)

## **Room Allocation:**

Registration desk: Mirror Floor

Plenary sessions: Pátria

Parallel Sessions: Bartók - Parallel Sessions D and E

Lehar - Parallel Sessions B and F

Liszt - Parallel Sessions C and G

Patria - Parallel Sessions A and H

Posters and Stands: Aula and Mirror Floor

Catering area: Aula and Mirror Floor

# EXHIBITION / POSTER SESSION

The exhibition and poster area is to be open during the entire conference.

The exhibition has two stands providing general information on R&D supported and carried out by the European Commission:

- a stand set up by EU Directorate-General for Research gives information on RTD programmes, on Bio-energy related activities in the Joint Research Center (JRC) as well as on the 6th Framework Programme
- a CORDIS stand offers online information and demonstrations of dedicated services and interactive tools on how to benefit from EU research funding for bio-energy in FP6. This includes news, calls and events, partner opportunities, examples of projects, exploitable results and much more.

A series of posters presenting Bio-energy projects and activities in the future Member States are displayed in the exhibition area. The participants will have the possibility to meet the researchers involved. A poster book containing the abstracts of all the presented posters is included in the conference documentation.

# PRACTICAL INFORMATION

## Dates

16-17 October 2003

*A welcome drink is offered on 15 October 2003 at 18h00.*

## Venue

Budapest Congress Centre

Jagello ut 1-3

H – 1123 Budapest

Tel: +36-1-3725400, +36-1-3725700

Fax: +36-1-3725735

Internet address: <http://www.bcc.hu>

## Conference organisers

European Commission

Directorate General Research

Directorate Energy

Unit "New and Renewable Energy Sources"

Email: [rt-d-energy-ia@cec.eu.int](mailto:rt-d-energy-ia@cec.eu.int)

## Logistics

European Commission

Joint Interpreting and Conference Service

B – 1049 Brussels

## Local Conference Secretariat

Cassandra Reisen

Dedicated e-mail address to this conference [cassandra@chello.hu](mailto:cassandra@chello.hu)

Fax: 00-36-1-239-6909

## Registration

Closed for speakers and poster presenters.

Others may still register by sending the registration form by e-mail the following address no later than 5 October 2003: [rt-d-energy-ia@cec.eu.int](mailto:rt-d-energy-ia@cec.eu.int)

## Payment

The event is free of charge. Acceptance to the conference covers the participation at the conference sessions, entrance to the poster exhibition, documentation, coffee breaks, meals and dinner.

## Formalities

Please check with your travel agent/Hungarian embassy what formalities, if any, are required for your trip.

## Welcome desk

A welcome desk will be available to participants at the conference venue:

Wednesday, 15 October, from 16h30 to 19h00.

Thursday, 16 October, from 8h30 until the end of the conference.



## **Official language**

The official language of the conference is English.

## **Posters and stands**

The poster's exhibition will be opened on Thursday, 16 October at 12h00 and will be accessible until the end of the conference.

The exhibitors will be able to put up the posters starting on Wednesday 15 October at 16h30 until 19h00 and on Thursday 16 October from 8h30 until 12h00.

## **Accommodation**

Special rates have been negotiated by the local conference secretariat, Cassandra Reisen, with four hotels in Budapest. The Hotel Booking Form will be sent to the accepted participants together with the letter of acceptance.

The offered hotels request a credit card guarantee. All reservations have to be modified or cancelled latest 48 hours before the date of the first reserved night.

## **Additional information about the town of Budapest**

<http://www.budapest.com>

## **Relevant information about airport transfer facilities**

<http://www.holidayhungary.com/tourist/transport/air.htm>

## **Meals**

Lunches on 16 and 17 October will be served in exhibition and poster area.

## **Conference dinner**

The conference dinner will take place on Thursday 16 October at the Hotel Gellért Thermal Baths.

You will be requested to register to the conference dinner. The registration form for the conference dinner will be sent to the accepted participants together with the letter of acceptance.

## **Website**

Details about the conference are available on the following website:

<http://www.cordis.lu/sustdev/energy/events.htm>

